Clean Bay Strategy

South Bay Watershed Activities Status Report

February 2004

San Jose/Santa Clara Water Pollution Control Plant

Administered by the Environmental Services Department, City of San José

TRIBUTARY AGENCIES:
Cities of: San José, Santa Clara and Milpitas • Cupertino Sanitary District
West Valley Sanitary District —including Campbell, Los Gatos, Monte Sereno and Saratoga
County Sanitation Districts 2-3 • Sunol and Burbank Sanitary Districts

INTRODUCTION

This report is the first issued following approval by the Regional Board in September 2003 of the Plant's NPDES permit. This report fulfills the Permit requirement to submit an annual report to the Regional Board. It covers activities that occurred during the period July 1, 2003 to December 31, 2003 under Permit Order R2 2003-0085, Provision E. 19 (Annual Status Reports). A report was submitted in July 2003 as a provision of the previous permit and covered activities between January to June 2003. Adoption of the current permit in September 2003 followed a successful yearlong stakeholder process using the Santa Clara Basin Watershed Management Initiative's Permit Workgroup to renegotiate the three South Bay permits (San José/Santa Clara, Sunnyvale, and Palo Alto).

The report is structured into two distinct sections:

1. 2004 Workplan, Contingency Plan and the South Bay Action Plan Report
2. Pollutant Prevention and Minimization Program (PMP) report. The PMP summary includes pollutant priorities, sources of pollutants, pollution prevention progress, and plans for the next year.

The two sections are stand-alone reports, facilitating review by Regional Board staff and all stakeholders.

PERMIT STRATEGY

Since 1994, the City has managed its pollution prevention program using the Clean Bay Strategy (CBS), which defined the policies and principles of watershed management from the City's perspective. For this time period, the City updated its permit strategy to build upon and expand the successful CBS approach, while preserving the basic goals and principles of a holistic, cost-effective, adaptive approach to watershed management. The guiding principles for the City's strategy are:

- Holistic approach to environmental restoration.
- Regulatory certainty for the City and industrial dischargers.
- Sound science and data collection as a basis for adaptive management decisions.
- Environmental equity.
- Stakeholder involvement and education.
- Cost-effective environmental protection.

The City believes that a successful watershed management program must integrate wastewater and urban stormwater programs, land use, and transportation planning, into a comprehensive plan to identify the most cost-effective and environmentally beneficial

programs. Central to the City's watershed approach is the acknowledgement of benefits that can be provided by the Plant's effluent, such as recycled water uses and habitat improvements. The City supports environmental and regulatory programs that produce a net environmental benefit for the ecosystem, while maintaining regulatory compliance.

One of the steps towards this goal is the City's participation in the current prioritization effort of the Santa Clara Basin Watershed Management Initiative (WMI), which seeks to prioritize all permit related and other activities of the agencies to better align requirements with the elements of the recently adopted Watershed Action Plan for the Santa Clara Basin.

Additionally, the WMI Permit Workgroup will hold regular meetings (at least annually over the next five years) to be better prepared for the next permit negotiation and have issues identified ahead of time. The annual permit meetings may be coordinated with the Copper/Nickel Action Plan updates and include discussion of issues that require resolution over this permit cycle as appropriate. Such issues may include data needs/analysis for reasonable potential and alignment of Regional Monitoring Program (RMP) data collection to permit needs, as well as findings on cyanide, dioxin, and mercury special studies.

EXECUTIVE SUMMARY

South Bay Action Plan Program:
During the Plant's dry weather season (May-October), the Plant's average dry weather effluent flow[1] (ADWEF) was 100 million gallons per day (mgd), well below the 120 mgd ADWEF trigger for the sixth consecutive year. This report also includes the South Bay Action Plan workplan for 2004, accomplishments for the second half of 2003, and a contingency plan. The report will note cases where fiscal year, instead of calendar year, is used to track activities.

Low dry weather flows are the result of the City's successful conservation and recycling programs, coupled with a sluggish economy for the past three years. In order to maintain low flows below the trigger after the economy improves, the City continues to expand use of the South Bay Water Recycling Program. One such effort is the current collaboration with the Santa Clara Valley Water District to co-fund the construction of the Silver Creek Pipeline to serve Metcalf Energy Center and future customers in the Coyote Valley area (projected average delivery of 5 mgd). Construction of the Silver Creek pipeline is scheduled to be completed in early 2004. All pipeline segments have been installed, and are currently being hydrotested, to ensure that the pipeline does not leak under pressure. Weekly construction updates are posted on the South Bay Water Recycling construction website. In addition, further collaboration with the Santa Clara Valley Water District on potential expansion of the recycling system is underway.

[1] ADWEF is calculated by averaging Plant effluent flows from the lowest three consecutive months between May through October.

The permit requires resolution of past mitigation requirements. The City is pursuing discussions with the Resource agencies and CalTrans to resolve the Moseley Tract issues and past mitigation requirements. A plan to address the Moseley site is expected to be completed by August 2004. U.S. Fish and Wildlife Services (USFWS) and the California Department of Fish and Game (CDFG) have indicated to the City and Regional Board staff that resolving Moseley is the preferred mitigation project at this time.

The City was chosen to participate in the federal and state South Bay salt pond restoration project stakeholder forum. The City has been an active participant and has provided data and Geographic Information Systems (GIS) expertise to the project. In addition, the City is investigating use of IKONOS satellite imagery to more efficiently and cost-effectively perform marsh assessment studies.

Pollutant Prevention and Minimization Program (PMP):
The Plant has maintained compliance with all its discharge limits and received the 2003 Plant of the Year award from the California Water Environment Association, Santa Clara Valley Section.

The PMP focuses on activities for the following pollutants:

1. Copper and nickel – Continue participation in regional efforts to address bay-wide impairment uncertainties, ambient monitoring in the South Bay, copper and nickel Action Plan elements and technical assistance to industrial dischargers to identify pollution prevention measures.
2. Mercury – Begin Plant fate and transport study, participate in regional efforts to educate dischargers about mercury sources and pollution prevention.
3. Pesticides and other organic compounds – Continue to support regional efforts to collect data and develop and apply appropriate pollution prevention activities.

Mercury, currently a priority pollutant of concern for the watershed, is being addressed through the Plant mercury fate and transport study, as well as participation in the bay-wide and Guadalupe River TMDL processes, and the City continues to contribute to the Regional Monitoring Program (RMP) to fund an atmospheric deposition sampling station. The Mercury fate and transport study will provide information about the relative amounts of the various chemical forms of mercury removed and passed through the Plant. The information will be considered in the development of the Bay-wide mercury TMDL.

The following reports have been submitted to the Regional Board as required on January 15, 2004 and are also included in this report update:

- Draft workplan for the Mercury Plant Fate and Transport Study
- Aldrin Laboratory Reliability Study

NEXT STEPS

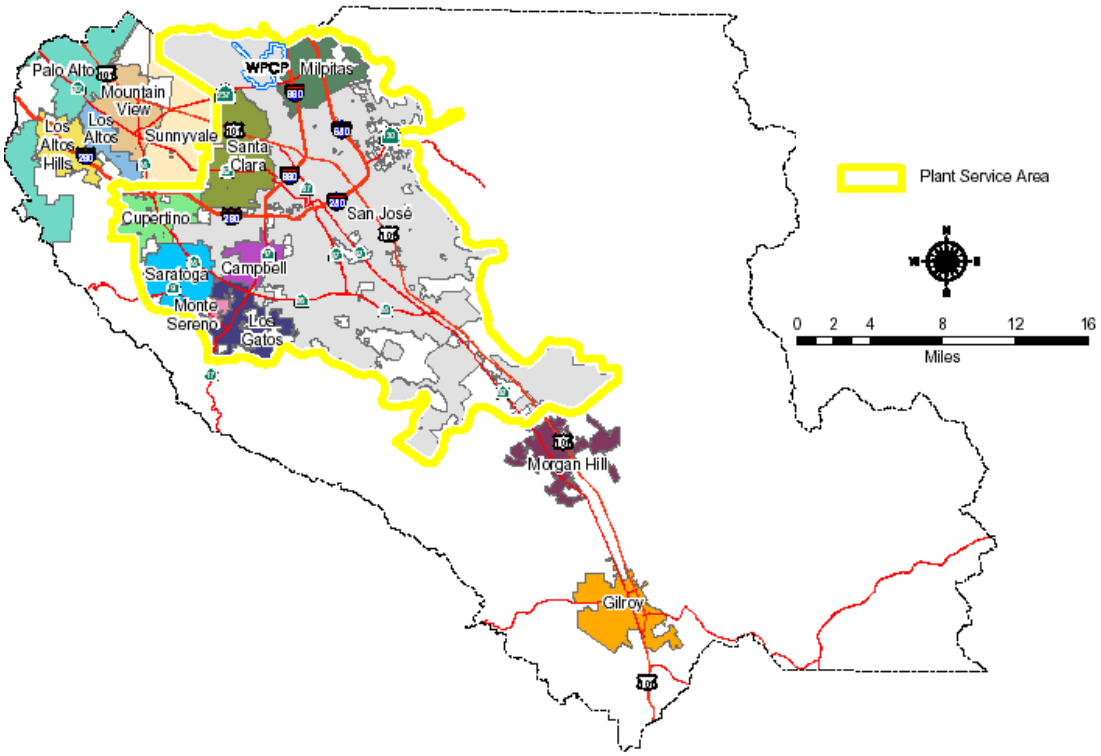
The following areas will be the focus for the next reporting period (2004):

- Resolution of Moseley Tract restoration and historic mitigation requirements.
- Implementation of mercury workplan and continued participation in TMDL efforts.
- Participation in regional habitat improvement projects such as salt pond restoration and continued support for community-based stakeholder processes to protect the watershed such as the Santa Clara Basin Watershed Management Initiative (WMI).
- Implement South Bay Action Plan Workplan.

All activity proposed in the Clean Bay Strategy is subject to the appropriation of funds by the San José City Council. Clean Bay Strategy Reports, as well as other studies and information related to South Bay Water Quality issues, may be found on the following website: http://www.ci.san-jose.ca.us/esd/

AREA TRIBUTARY TO THE SAN JOSÉ / SANTA CLARA WATER POLLUTION CONTROL PLANT

NPDES PERMIT CA0037842



The City of San José manages the San José/Santa Clara Water Pollution Control Plant (Plant) for the Cities of San José, Santa Clara, Milpitas, Cupertino Sanitation Districts 2-3, Sunol and Burbank Sanitary Districts and West Valley Sanitation District (Campbell, Lost Gatos, Monte Sereno, and Saratoga) as shown above. The Plant is located at the southern end of one of the most important estuaries in the United States and receives discharge from over 1.4 million residents and more than 16,000 commercial and industrial facilities, including the leading companies of Silicon Valley.

Treatment Process: The wastewater treatment process consists of screening and grit removal, primary sedimentation, secondary (biological nutrient removal) treatment, secondary clarification, filtration, disinfection, and dechlorination.

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Abbreviations and Units of Measure

Action Plan	*Revised South Bay Action Plan*
ADWEF	Average Dry Weather Effluent Flow
BACWA	Bay Area Clean Water Agency
BAPPG	Bay Area Pollution Prevention Group
BASMAA	Bay Area Stormwater Management Agencies Association
Bay	San Francisco Bay
BMP	Best Management Practice
CBS	Clean Bay Strategy
CEP	Clean Estuary Partnership
City	City of San José
EE	Environmental Engineering
ESD	Environmental Services Department
FAS	Flow Audit Study
FY	Fiscal Year
GWI	Groundwater Infiltration
Industrial	Industrial Water Recycling and Reuse
IPM	Integrated Pest Management
JPA	Joint Powers Authority
IU	Industrial User
IWRP	Integrated Water Resources Plan
NPDES	National Pollutant Discharge Elimination System
P2	Pollution Prevention
Plant	San José/Santa Clara Water Pollution Control Plant
PMP	Pollutant Prevention and Minimization Program
POTW	Publicly Owned Treatment Works
Regional Board	California Regional Water Quality Control Board, San Francisco Bay Region
RMP	Regional Monitoring Program
SBWR	South Bay Water Recycling
SOP	Standard Operating Procedure
South Bay	San Francisco Bay, South of Dumbarton Bridge
SSO	Site Specific Objective
State Board	California State Water Resources Control Board
TMDL	Total Maximum Daily Load
Tributary Agencies	Cities and Agencies Tributary to the Plant: San José; Santa Clara; Milpitas; Cupertino Sanitary District; West Valley Sanitary District – Campbell, Los Gatos, Monte Sereno, and Saratoga; County Sanitation Districts 2 and 3, and Sunol and Burbank Sanitary Districts
ULFT	Ultra-Low Flush Toilet
Urban Runoff Program	Santa Clara Valley Urban Runoff Pollution Prevention Program
U.S. EPA	United States Environmental Protection Agency
Water District	Santa Clara Valley Water District

Abbreviations and Units of Measure

WEP	Water Efficiency Program
WET	Water Efficient Technologies
WMI	Santa Clara Basin Watershed Management Initiative

UNITS OF MEASURE

ccf	hundred cubic feet
gpd	gallons per day
LF	linear feet
mgd	million gallons per day
ppb	parts per billion
ppd	pounds per day (lbs/day)
ppt	parts per trillion

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2004 South Bay Action Plan Workplan,

Contingency Plan

and

2003 Activity Update

San José/Santa Clara Water Pollution Control Plant
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Tributary Agencies: Cities of San José, Santa Clara and Milpitas • Cupertino Sanitary District • West Valley Sanitary District – including Campbell, Los Gatos, Monte Sereno and Saratoga • County Sanitation Districts 2-3 • Sunol and Burbank Sanitary Districts

2004 SOUTH BAY ACTION PLAN WORKPLAN Activities based on calendar year unless otherwise noted.					
Provision	**Program**	**Activities**	**Deliverables**	**Projected Flow Reduction/ Measure of Effectiveness**	**Comments**
E.11.a. Water Efficiency	Water Efficiency Program (WEP)	List of Program Activities for FY 2002/2003 • Toilet Flapper/Leak repair outreach based on research currently being conducted. • Continue cost sharing agreement with SCVWD to conduct flow reduction activities. • Water Efficient Technologies (WET) financial incentive program for commercial businesses.	• Targeted direct mail outreach to past participants in the City's ULFT retrofit programs. • Flow reduction through countywide programs that provide incentives to purchase ultra high efficiency toilets and washing machines. • Work with commercial facilities such as hospitals, restaurants, & grocery stores to increase usage of WET.	• 0.15 mgd in FY 2003/2004 • Customer satisfaction with programs and fixtures	Due to the continuing reduced flows to the Plant, diminishing returns, and budgetary uncertainty, WEP will focus on the most cost-effective programs only in FY 04/05.

2004 SOUTH BAY ACTION PLAN WORKPLAN Activities based on calendar year unless otherwise noted.					
Provision	**Program**	**Activities**	**Deliverables**	**Projected Flow Reduction/ Measure of Effectiveness**	**Comments**
E.11.a. Water Efficiency	Industrial Recycling and Reuse	• Technical information outreach • Water Efficient Technologies (WET) financial incentive program for industrial dischargers.	• Guidelines based on Flow Audit Study Protocol • Final Industrial Wastewater Reuse Guidelines • One IU Academy • One IU Newsletter • Two Case Studies • Four WET projects	200,000 gpd for 2004	
E.11.a.	South Bay Water Recycling	Description of Phase II A implementation: Silver Creek Pipeline co-funded with the SCVWD has been installed and is being hydrotested. Streets are being repaved.	Operational Silver Creek pipeline in early 2004.	Potential 6.0 – 8.0 mgd use once completed	
E.11.a.	South Bay Water Recycling	Other projects for 2004/2005 (reliability)	Zone 3 Reservoir	Increased reliability for delivery to 5 mgd Metcalf Energy Center	Property to be acquired by 3/04 (estimate); facility complete by 9/05
E.11.a.	South Bay Water Recycling	List of Outreach/Marketing Activities for 2004-2005 • Water Quality Report • Customer Satisfaction Survey	A Water Quality Report will be mailed directly to over 400 customers.		

2004 SOUTH BAY ACTION PLAN WORKPLAN Activities based on calendar year unless otherwise noted.					
Provision	**Program**	**Activities**	**Deliverables**	**Projected Flow Reduction/ Measure of Effectiveness**	**Comments**
		• Water Focus Survey • Site Supervisor Training • Landscapers' Workshop Training	Training will be provided to new and existing customers to comply with permit requirements and to promote benefits and best practices of recycled water.		
E.13.	Salt Marsh Vegetative Assessments	Document changes in marsh habitat to determine the status of endangered species habitat in the areas that are or reasonably could be influenced by Plant discharge. (Study area)	Not required in 2004.		Required in 2005 and 2007
E.14.	Rail and Mouse Surveys	• Perform a synoptic survey to provide information on the presence or absence of the California clapper rail and salt marsh harvest mouse. • Submit workplan six months prior to beginning the survey to the Regional Board, the CDFG, and USFWS, Sacramento Office. • Final report to be submitted by 02/28/07.	Not required in 2004		Survey required in 2006.

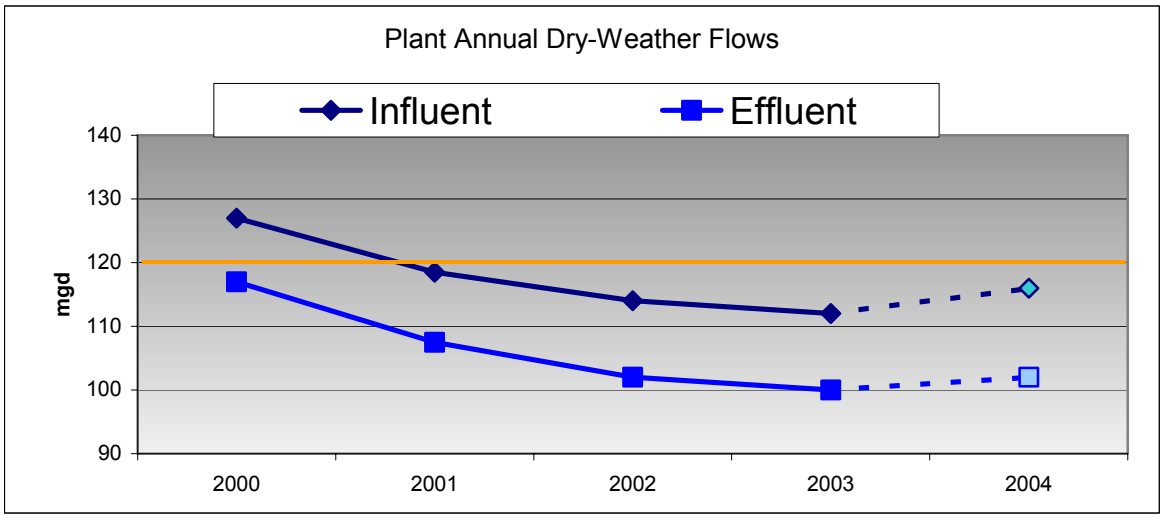
SOUTH BAY ACTION PLAN CONTINGENCY PLAN

The NPDES permit provision E.11.b. requires the submittal of a contingency plan that describes the planning effort to identify water recycling and conservation efforts over and above current levels should flows increase significantly. The process to initiate additional flow reduction activities includes:

- Update the flow projection model annually to establish "best projection" of effluent flows.
- Begin analysis of potential additional programs if average dry-weather effluent flows (ADWEF) reach a planning trigger of 115 mgd, which was determined using a safety factor that accounts for time to implement activities, projected growth, and City policy.
- Such analysis would include:
    1. Identifying and developing characteristics of potential future flow reduction programs/projects, including program cost, flow reduction projection, implementation schedule, benefit characteristics as needed for benefit cost analysis.
    2. Prioritizing potential programs/projects using benefit cost analysis and policy decisions on priorities for programs at the time.
    3. Determining implementation period required to achieve the next significant increment of flow reduction.
- The analysis would be submitted to the Regional Board as a more detailed contingency Action Plan in the year that follows ADWEF reaching the planning trigger.
- If flows continue to rise, priority projects will be implemented.

EFFECTIVENESS EVALUATIONS

The South Bay Action Plan activities result in reduced flows to the Bay as their primary effectiveness measure. Following is a discussion of Plant dry-weather flow trends.



Data Sources: SJ/SC WPCP flows, the California Department of Employment Development, the California Department of Finance, Demographic Research Unit on jobs and residential population figures.

PLANT FLOWS

Plant dry-weather hydraulic flows (May – October) have experienced a steady decrease since 2000. The Plant's dry weather effluent was well below the 120 million gallons per day trigger for the 2003 season with the average of three lowest consecutive months (July-September) being 100.1 mgd. The drop in influent (13% between 2000 and 2003) has been primarily from the non-residential sector caused by the economic slowdown and the corresponding loss of over 120,000 jobs in the Plant service area. There has also been a shift from more water use-intensive jobs (e.g., fruit canning and semi-conductor chip manufacturing) to those using less (e.g., service and retail sectors and software development). Residential populations have risen steadily over the same period (up 38,400 or 3%). However, influent flow from this sector has actually decreased slightly due to continued conservation (e.g. plumbing retrofits and incentives and plumbing codes). Flows for next year are expected to rise slightly due to an increase in economic activity and number of jobs in the Plant Service Area. The City will continue to update and calibrate the flow model and explore additional applications for its use.

2003 SALT MARSH VEGETATIVE ASSESSMENT

The City performed a marsh assessment study for 2003 as part of its long-term monitoring program that began in 1989. In 2001 and to a higher degree in 2002, brackish marsh conversion to salt marsh occurred due to a dieback of alkali bulrush and replacement with pickleweed and cordgrass. During this same period, Plant dry-weather

effluent flows dropped from 116 mgd in 2000 to 107 mgd in 2001 and 102 mgd in 2002, and other key freshwater sources were less than normal. In 2003, with Plant flows at their lowest in 11 years (100 mgd), some conversion back to brackish marsh occurred in some of the marshes that converted to salt marsh in 2002. Both the Transition Reach in the Main Study Area and the Reference Reach showed salt marsh to brackish marsh conversion, while the Lower Reach closest to the Bay showed gains in salt marsh.

In light of the Plant's reduced flows, it is likely that much of the interannual variation in habitats within the South Bay marshes is due to large-scale environmental factors. The reversal of the habitat conversion trend in 2003 from the previous two years could be a direct result of the heavy late rains and relatively large Delta and local tributary flows that occurred in April of 2003. The 2003 report is available on the Environmental Services Department's website at www.ci.san-jose.ca.us/esd/marshplant.htm

South Bay Action Plan Activities Update for 2003 (July – December)

WATER CONSERVATION AND RECYCLING PROGRAMS

PERMIT PROVISION: E.11.a.
EFFECTIVENESS MEASURES: Influent flow reduction. 4-YEAR FLOW REDUCTION GOAL: 1 MGD

Activity	Accomplishments		Future Activities 2004
Water Efficiency *(Based on fiscal year)*	FY 2002-2003 ➢ Toilet Flapper research study developed. ➢ Continue Cost Sharing Agreement with SCVWD – Flow Reduction Programs. ➢ Implement ULFT Direct Distribution pilot.	• Cost Sharing Agreement completed. Regional program includes incentives to purchase ULFTs and washing machines. • Direct ULFT distribution pilot program completed successfully.	FY 2003-2004 ➢ Flapper Research will be conducted in early 2004. ➢ SCVWD Flow Reduction Programs underway. ➢ Direct ULFT Distribution Program to service people on wait list in last half of fiscal year 03-04.
Industrial Recycling and Reuse - Water Efficiency Technologies	➢ Provide technical information and outreach on flow reduction technologies. ➢ Provide Water Efficient Technologies (WET) financial incentives to encourage industrial water conservation and reuse. ➢ Provide Industrial Wastewater Reuse Guidelines to expedite industrial reuse projects through the building permit process.	• Case study for LSI Logic completed. Winter 2003 Industrial User newsletter distributed. • One WET project completed at Headway Technologies that saved 15,200 gpd. $29,672 distributed. • A project for Novellus was used as a test case for the draft guidelines and their project was approved and construction begun.	➢ Continue to pursue further case studies for completed projects. ➢ Complete at least one Industrial User Academy and one Industrial User newsletter in 2004. ➢ Complete guidelines using information from Flow Audit Study protocol. ➢ Track 4 WET projects underway that will be completed in 2004 with an estimated reduction of 63,756 gpd. ➢ Track an additional 10 active WET applications with an estimated 192,800 gpd flow reduction. ➢ Complete final version of Industrial Wastewater Reuse Guidelines.

SOUTH BAY WATER RECYCLING

PERMIT PROVISION: E.11.a.
EFFECTIVENESS MEASURES: Influent and effluent flow reduction. 4-YEAR FLOW REDUCTION GOAL: 6-8 MGD

Activity	Accomplishments		Future Tasks
Description of Phase II A implementation	Continue construction projects.	First of three new electric power generation facilities connected (Los Esteros Critical Energy Facility)	Power plants now under construction in San José and Santa Clara will use an additional 7 mgd in summer.
Collaborative Effort with the Santa Clara Valley Water District (SCVWD)	➢ Continue negotiations on a long-term agreement between the Plant Joint Power Authority and the SCVWD on the operation and maintenance of the SBWR system. ➢ Construct Silver Creek pipeline. ➢ Investigate advanced water treatment options.	• Collaborative effort is focusing on completing County's long term water supply planning process and performing water quality studies • Silver Creek pipeline has been completed and will be operational in early 2004 • One of the recycled water studies as part of the Collaborative is the City-led pilot advanced treatment project to determine the efficiency and effectiveness of using various advanced treatment methods to remove salt from tertiary treated recycled water.	➢ Additional expansion will depend on collaborative discussions with the SCVWD. ➢ Results of partnership work and progress on recycled water studies to be presented to the District and Council in April 2004. ➢ Advanced Treatment Project scheduled for completion by Fall 2004. ➢ Finalize recommendations for long-term partnership agreement by late summer/early fall.
Outreach/Marketing	➢ Water Quality Report ➢ Customer Satisfaction Survey ➢ Water Focus Survey ➢ Produced and distributed over 6000 construction mailers to residents	• Sponsored and attended Spring in Guadalupe Garden. Over 1000 people attended the community event. • Landscapers' Workshop Training	Continue current efforts.

SOUTH BAY WATER RECYCLING PERMIT PROVISION: E.11.a. EFFECTIVENESS MEASURES: Influent and effluent flow reduction. 4-YEAR FLOW REDUCTION GOAL: 6-8 MGD			
Activity	**Accomplishments**		**Future Tasks**
	and businesses near the pipeline construction project. Mailers also promoted the benefits of recycled water. ➢ Radio and print ads to inform commuters on construction project and road delays/closures. ➢ Produced and distributed construction notifications via email, internet, mail and in person to residents and businesses.	• Site Supervisor Training • Sponsored a San José Giants baseball game. • Attended community events sponsored by Metcalf Energy Center to answer questions regarding the pipeline construction project and to promote and educate the public on the benefits of recycled water.	
GIS Mapping	➢ Work with City of Santa Clara to develop a GIS-based hydraulic model for the SBWR distribution system. ➢ Support SBWR modeling efforts as needed. ➢ Produced map books of SBWR system for field staff.	• The computer model is near completion. It will allow engineering staff to predict flow capacity in the system based on existing or future conditions. In addition, when maintenance is performed on the system, the model will be able to predict what impact such maintenance would have on existing customers. • The development of a GIS-based valve isolation model is also under development. This computer model will be able to predict which customers would be	Continue to provide technical support to the modeling project until completion.

SOUTH BAY WATER RECYCLING PERMIT PROVISION: E.11.a. EFFECTIVENESS MEASURES: Influent and effluent flow reduction. 4-YEAR FLOW REDUCTION GOAL: 6-8 MGD			
Activity	**Accomplishments**		**Future Tasks**
		affected in the event of a service interruption, and which valves will need to be closed in order for the problem to be repaired.	

GROUND WATER INFILTRATION

PERMIT PROVISION:
EFFECTIVENESS MEASURES: Influent flow reduction. 4-YEAR FLOW REDUCTION GOAL: 1 MGD

Activity	Accomplishments	Future Activities
Ground Water Infiltration	Redmond Avenue Parallel Sewer Rehabilitation This project involves cured-in-place liners of 3,500 lineal feet (LF) of 15-inch, 2,400 LF of 24-inch and 1,150 LF of 27-inch trunks, along with rehabilitation of 25 manholes and a number of laterals within the right of way. These trunk sewers, located between Camden Avenue and Cloverhill Drive, were identified to contribute up to 2 MGD of GWI. The project has been completed for beneficial use and additional flow monitoring data is currently being analyzed to determine the actual reduction in GWI.	Public Works is currently investigating other specific sources and locations for future projects. These areas include pipelines upstream of the Redmond Avenue Rehabilitation Project, the 30" diameter pipe along Bayshore Highway, a 24" clay pipe in 7th Street, and the Downer-Canoas sewer line. Future work will be dependent upon available funding.

SALT MARSH VEGETATIVE ASSESSMENT

PERMIT PROVISION: E.13.
EFFECTIVENESS MEASURES: Assessment Completed

Activity	Accomplishments		Future Activities
Salt Marsh Vegetative Assessment	➢ H.T. Harvey completed an assessment for 2003.	The 2003 report is available on the Environmental Services Department's website at www.ci.san-jose.ca.us/esd/marshplant.htm. See pages 6-7 of the ACTION PLAN report for a brief summary.	➢ Salt Marsh Vegetative Assessments are required in 2005 and 2007.
IKONOS Imagery - Marsh assessment is not required in 2004 however; the City continues to investigate cost-effective methods of performing future required assessments.	➢ Participate in the San Francisco Bay task force formed by the San Francisco Estuary Institute and the Regional Board to develop consistent San Francisco baylands monitoring and assessment methods that will aid in regulatory and planning within the region. ➢ Research use of IKONOS imagery as a replacement for traditional aerial photography.	• 1-Meter Resolution Multi-Spectral Satellite Imagery (from Space Imaging, Inc.) has been adopted as the standard for future marsh vegetation assessment studies. IKONOS imagery is more cost-effective than traditional aerial photography. In addition, using the various spectral signatures obtained from the vegetation, plant species and wetland types can be identified to a higher degree of detail when compared to previous methods.	➢ Continue to actively participate and lend technical support to the State and Federal salt pond restoration stakeholder process. ➢ Continue to verify capabilities of IKONOS imagery for marsh assessments.

WETLANDS MITIGATION

PERMIT PROVISION: E.12.
EFFECTIVENESS MEASURES: Complete mitigation requirement

Activity	Accomplishments		Future Activities
Moseley Tract	Meet with Resource Agencies to discuss options to resolve Moseley Tract issues that impede restoration efforts.	Resource Agencies (USFWS and CDFG), City of San José, and CalTrans are pursuing resolution of the Moseley Tract Issues. Resource Agencies indicated in an October 27, 2003 e-mail to Regional Board staff that resolution of Moseley is the preferred alternative to address mitigation requirements.	Follow-up meetings between Resource Agencies, City of San José, and CalTrans are being scheduled for early 2004 to continue discussions.
Alternate Mitigation Project and Agreement	Draft an alternative mitigation project acceptable to the Resource Agencies that resolves all historic salt marsh mitigation.	Draft proposal completed prior to permit adoption on September 17, 2003. Draft agreement sent to Resource Agencies.	Will pursue an agreement if Moseley Tract Restoration issues are not resolved prior to August 2004.
State and Federal Salt Pond Restoration Project Participation (not required by permit)	Be an active participant in the State and Federal Salt Pond Restoration effort in the South Bay.	• Dan Bruinsma, Program Manager for ESD - Policy and Planning was selected to participate in the stakeholder forum for the State and Federal restoration project. • The City has provided essential data relating to South Bay water quality and marsh assessments to this important effort and to	Continue active stakeholder participation. Provide technical assistance as appropriate.

WETLANDS MITIGATION PERMIT PROVISION: E.12. EFFECTIVENESS MEASURES: Complete mitigation requirement			
Activity	**Accomplishments**		**Future Activities**
		the Regional Board as well as participated in discussions relating to development of a GIS plan.	

SANTA CLARA BASIN WATERSHED MANAGEMENT INITIATIVE (WMI)
PERMIT PROVISION: E.10.
EFFECTIVENESS MEASURES: Continued Participation

Activity	Accomplishments		Future Activities
Continue participation in the WMI.	Complete and adopt the Watershed Action Plan.	• Action Plan was adopted by WMI Core Group in the summer of 2003. • San José City Council adopted the Action Plan and reaffirmed WMI commitment in September 2003.	Continue active participation in the Core Group and other subgroups as appropriate.
Core Group	Core Group to develop Action Plan workplans	First year workplan completed.	Implement first year workplan. www.scbwmi.org
Core Group	Prioritize WMI and NPDES Permit required activities.	Stakeholder meeting held to address prioritization.	Continue prioritization effort.
Bay Modeling and Monitoring Subgroup – Permit Workgroup	Reissuance of POTW NPDES Permits	• Successfully adopted on September 17, 2003. • Lessons learned meeting held on November 5, 2003.	Agreement from lesson's learned that periodic, at least annual, stakeholder meetings will be held to discuss activity required by the permits.
Bay Modeling and Monitoring Subgroup			Initiate a permit workgroup for the reissuance of the Urban Runoff permits.
Bay Modeling and Monitoring Subgroup	Participate in the Copper and Nickel Action Plan Semi Annual Update Meetings	Meeting held December 2003. Regional Board accepted new reporting format. Will coordinate with the North Bay Cu/Ni TMDL development of	San José will Chair the South Bay Copper and Nickel Subgroup. Staff will participate in reviewing and commenting on the North Bay TMDL Action Plan

SANTA CLARA BASIN WATERSHED MANAGEMENT INITIATIVE (WMI)
PERMIT PROVISION: E.10.
EFFECTIVENESS MEASURES: Continued Participation

Activity	Accomplishments		Future Activities
		Action Plans to develop Action Plans consistent throughout the San Francisco Bay. This should lead to a simplified Action Plan for the South Bay.	development as well as attend meetings as appropriate.

AVIAN BOTULISM

PERMIT PROVISION: E.2.
EFFECTIVENESS MEASURES: Complete Survey

Activity	Accomplishments		Future Activities
Avian Botulism Control Program	Contract with San Francisco Bay Bird Observatory (SFBBO) to conduct avian botulism surveys of tidal areas in Artesian Slough, Coyote Creek and Alviso Slough under influence of fresh and brackish water from May through October 2003.	• This years survey counted 4 dead birds. There was no evidence of avian botulism in 2003. • The City worked with SFBBO to develop a regional GIS view of historical avian botulism outbreaks in South Bay.	➢ Submit annual report to Regional Board, CDFG, and USFWS by 1 Feb. ➢ Maintain contract with SFBBO for annual surveys.



Pollutant Prevention and Minimization Plan (PMP)

San José/Santa Clara Water Pollution Control Plant

Administered by the Environmental Services Department, City of San José

Tributary Agencies: Cities of San José, Santa Clara and Milpitas • Cupertino Sanitary District • West Valley Sanitary District – including Campbell, Los Gatos, Monte Sereno and Saratoga • County Sanitation Districts 2-3 • Sunol and Burbank Sanitary Districts

DISCUSSION OF POLLUTANTS OF CONCERN

The City did not identify any pollutants as "Pollutants of Concern" during the second half of 2003. There was no discharge in violation of any permit limit or water quality criteria. However, a number of pollutants were determined to have a reasonable potential to contribute to an excursion above a water quality criteria, mostly due to background levels in the Bay. The City has a variety of activities in place to minimize the Plant's contribution of priority pollutants to the South Bay. These activities will be described in the PMP. The City has identified the following pollutants to be included in this report, and separated them into the following five groups, based on the reason for their being so identified.

1. Copper and Nickel – Reportable Priority Pollutants due to a reasonable potential (using the State Implementation Plan Trigger 3) to contribute to ambient levels in the South Bay. Regulatory findings resulted in effluent limits for copper and nickel being included in the Plant's NPDES Permit.

2. Mercury, 4,4'-DDE, Dieldrin, and Dioxin – Reportable Priority Pollutants due to a reasonable potential to contribute to an excursion above water quality criteria. These constituents are on the 2002 303(d) list. This reasonable potential was determined due to background levels in the receiving waters being above the water quality criteria (using the State Implementation Plan Trigger 2), and not due to levels in the Plant's effluent.

3. Benzo(b)fluoranthese, Indeno(1,2,3-cd)pyrene, and Heptachlor epoxide – Reportable Priority Pollutants due to a reasonable potential to contribute to an excursion above water quality criteria. This reasonable potential was determined due to background levels in the receiving waters being above the water quality criteria (using the State Implementation Trigger 2), and not due to levels in the Plant's effluent.

4. Organochlorine Pesticides – Included due to debatable analytical results for the Plant's effluent in 2002. These results were deemed of questionable reliability since [1] contaminants were not generally detected in influent and effluent samples collected concurrently, [2] these contaminants have been banned for sale and use for decades, [3] contaminant concentrations would indicate a highly improbable discharge of banned substances, and [4] organochlorine pesticides have never been detected in either the influent or effluent at these unexpectedly high concentrations. In lieu of any regulatory action, Regional Board staff endorsed a proposal to conduct an inter-laboratory comparison for EPA Method 608 between three contract laboratories. In October 2002, the City initiated a laboratory reliability study to evaluate laboratory competency to provide accurate and precise trace-level measurements for these pesticides.

5. Cyanide – Included due to the potential future regulatory requirements. Regional Board staff has tentatively recommended a site-specific objective for cyanide, and

this site-specific objective (SSO) may be applied to the Plant before negotiations begin for the next permit. Any new limitation, interim or final would require a permit amendment.

For 4,4'-DDE, dieldrin, dioxin, benzo(b)fluoranthese, indeno(1,2,3-cd)pyrene, and heptachlor epoxide, detection limits are above the water quality criteria, and all results for the last three years have been non-detects. For mercury, the maximum pollutant concentration observed is well below the water quality criteria.
The PMP is divided into three sections:

1. Copper and nickel
2. Mercury
3. Pesticides and other organic compounds

Source control and other local and regional efforts for these pollutants are identified in the following tables.

COPPER AND NICKEL

SOURCES: Sediment exchange during resuspension; Non-point source loads; Industrial discharges; Residential sources
EFFECTIVENESS MEASURES: Influent and Effluent from the Plant is monitored for upward trends, as is total loading from permitted industrial dischargers

Activity	Completed Tasks for Reporting Period (7/1/03-12/31/03)	Effectiveness Evaluation	Future Tasks
Monitor Industrial Loading CB-13, NB-3 Provision E.9.	Calculated total copper and nickel loading from all permitted industrial users for calendar year 2003. See Figure 6.	Loadings were compared to 1997 baseline year and 2002. 2003 totals for both copper and nickel are down as compared to 2002. Copper is slightly lower (7%), while nickel has decreased nearly 50%. The difference is mainly attributable to a drop in discharge flow from Group 2 dischargers.	Calculate loading annually and investigate any increases observed, both for overall results and individual Industrial Dischargers. Will monitor the total copper loading to the Plant since it did not drop significantly with a large reduction in flow.
Copper/Nickel Water Quality Attainment Strategies - Action Plans & South Bay Coordination Provision E.9.	Stakeholder meeting held December 9, 2003. Spring meeting was deferred due to ongoing discussions with the Regional Board over reporting. Issues resolved prior to December meeting. The Copper & Nickel Action Plan Baseline activities included in the PMP: 1. CB-13 Track POTW Pretreatment Program effort and POTW loadings. 2. CB-14 Track and encourage water recycling efforts.	Continue baseline activities and discussions to streamline the Action Plans.	1. Hold semi-annual stakeholder meetings. Spring – POTW's, Fall – Stormwater issues. 2. Actively participate in the North Bay TMDL stakeholder process to develop bay-wide Copper and Nickel Action Plans.

COPPER AND NICKEL SOURCES: Sediment exchange during resuspension; Non-point source loads; Industrial discharges; Residential sources EFFECTIVENESS MEASURES: Influent and Effluent from the Plant is monitored for upward trends, as is total loading from permitted industrial dischargers			
Activity	**Completed Tasks for Reporting Period (7/1/03-12/31/03)**	**Effectiveness Evaluation**	**Future Tasks**
	3. CB-17 Track and encourage the investigation of important topics that influence uncertainty with the Lower South Bay impairment decision. 4. CB-19 Track industrial virtual closed-loop wastewater of POTW Source Control programs.		
Copper/Nickel Water Quality Attainment Strategy – Ambient Monitoring Provision E.9.	Completed dry season sampling for dissolved copper and nickel at 12 monitoring stations in the South Bay.	No triggers were exceeded for copper and nickel in 2003. No evident trend upward or downward.	Monthly sampling between June and November will continue in 2004 in South Bay. See Figure 5 for monitoring stations.
Industrial Water Recycling and Reuse CB-14, NB-4,CB-19 Provisions E.7.b.(v,vi) and E.7.g.	1. Headway Technologies project completed under WET program. 2. LSI Logic case study completed. 3. Industrial Wastewater Reuse Guidelines used for Novellus as a test case. 4. Winter 2003 Industrial User newsletter distributed. 5. Two Mass Audit Studies are being	15,200 GPD reductions from WET.	1. Continue WET (expected to complete at least 4 projects in 2004). 2. Complete at least 2 case studies in conjunction with WET projects. 3. Complete Industrial Wastewater Reuse Guidelines and make them available to expedite

COPPER AND NICKEL SOURCES: Sediment exchange during resuspension; Non-point source loads; Industrial discharges; Residential sources EFFECTIVENESS MEASURES: Influent and Effluent from the Plant is monitored for upward trends, as is total loading from permitted industrial dischargers			
Activity	**Completed Tasks for Reporting Period (7/1/03-12/31/03)**	**Effectiveness Evaluation**	**Future Tasks**
	reviewed to determine appropriate mass equivalent concentration limits, Headway Technologies and Data Circuits.		projects through permitting process. 4. Hold Industrial User Academy for permitted dischargers. 5. Distribute next edition of the Industrial User newsletter to permitted dischargers and tributary cities/agencies staff. 6. Complete conversion of Flow Audit Study Protocol into informational guidelines and make them available to Industrial Users.
New Industry / Development Review Provision E.7.h.	1. Reviewed 33 plans for SBWR 2. Reviewed 4 plans for Water Efficiency 3. Reviewed 32 plans for Source Control 4. Reviewed 5 EIRs		Continue to comment on environmental issues at weekly San José Planning meeting.
Influent and Effluent Monitoring CB-13, NB-3	Monitored Plant influent and effluent for copper and nickel on a weekly basis. See Figures 1 – 4.	Effluent copper and influent and effluent nickel remained at levels comparable to last five years. Influent copper	Continue to monitor Plant influent and effluent for copper and nickel.

COPPER AND NICKEL SOURCES: Sediment exchange during resuspension; Non-point source loads; Industrial discharges; Residential sources EFFECTIVENESS MEASURES: Influent and Effluent from the Plant is monitored for upward trends, as is total loading from permitted industrial dischargers			
Activity	**Completed Tasks for Reporting Period (7/1/03-12/31/03)**	**Effectiveness Evaluation**	**Future Tasks**
		levels were consistent with the results obtained last year.	
Impairment Uncertainties CB-17	Track and encourage the investigation of important topics that influence uncertainty with Lower South Bay Impairment Decision. Phytoplankton species toxicity and prevalence.	1. Support tracking effort via financial support to the RMP and CEP. Funded $154,000 to the RMP and $90,000 to the CEP in 2003. 2. Encourage further investigation by actively participating in RMP and CEP committees. City staff currently co-chair both technical committees for the RMP and the CEP which are recognized as the appropriate forums for working towards regional solutions to ongoing uncertainties.	Continue funding and participation commitment to RMP and CEP efforts.
Regional Outreach Public and	The City remained active in BAPPG and BACWA regional pollution prevention	Presentations will include a before and after survey to	Complete planned presentations and further distribution of the fact sheets

COPPER AND NICKEL SOURCES: Sediment exchange during resuspension; Non-point source loads; Industrial discharges; Residential sources EFFECTIVENESS MEASURES: Influent and Effluent from the Plant is monitored for upward trends, as is total loading from permitted industrial dischargers			
Activity	**Completed Tasks for Reporting Period (7/1/03-12/31/03)**	**Effectiveness Evaluation**	**Future Tasks**
Employees Provision E.7. (v,vi)	and outreach development groups. BAPPG made a presentation to a plumbers' union about their copper corrosion fact sheets. A list of other organizations to target was made and volunteers were assigned to make presentation in 2004.	evaluate the effectiveness of the presentations.	to installers and designers of copper piping systems.

Figure 1 - Influent, Copper

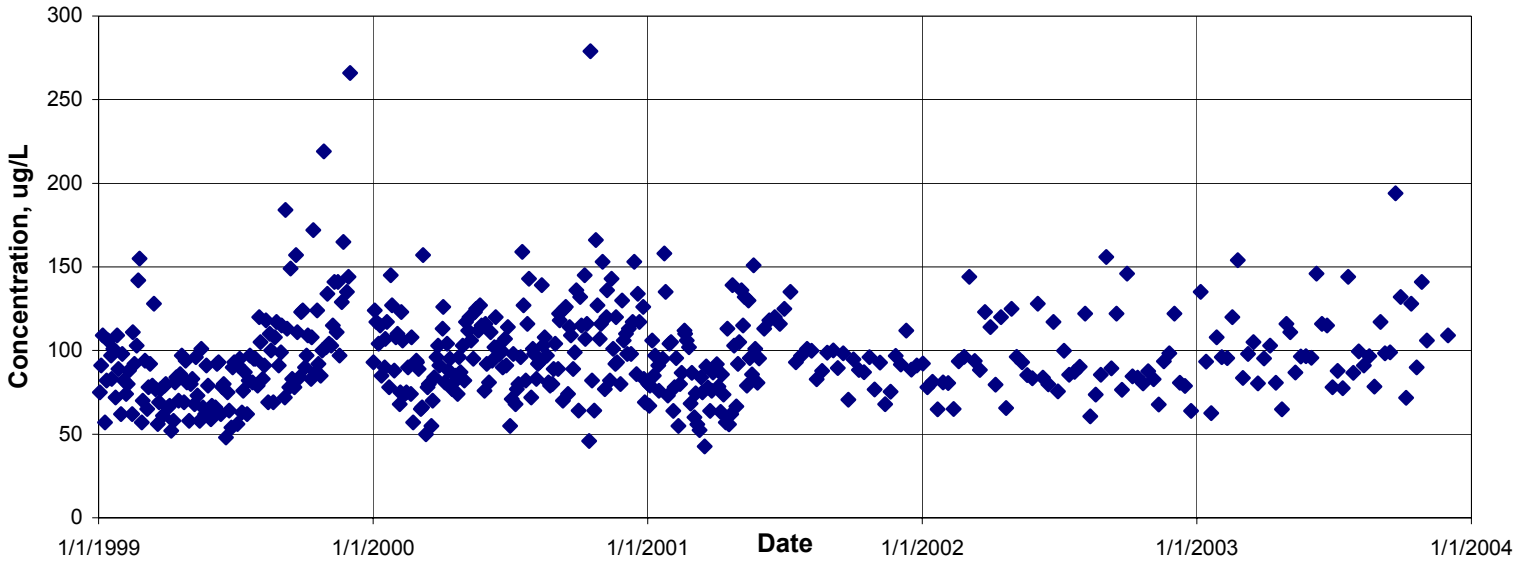


Figure 2 - Effluent, Copper

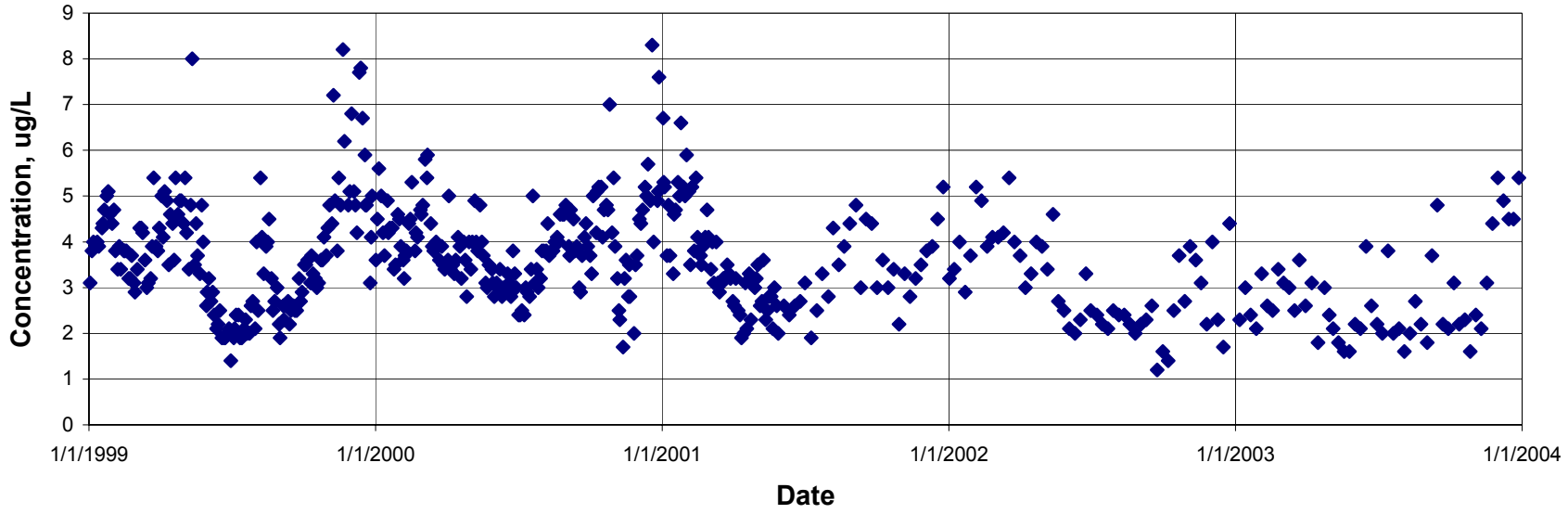


Figure 3 - Influent, Nickel

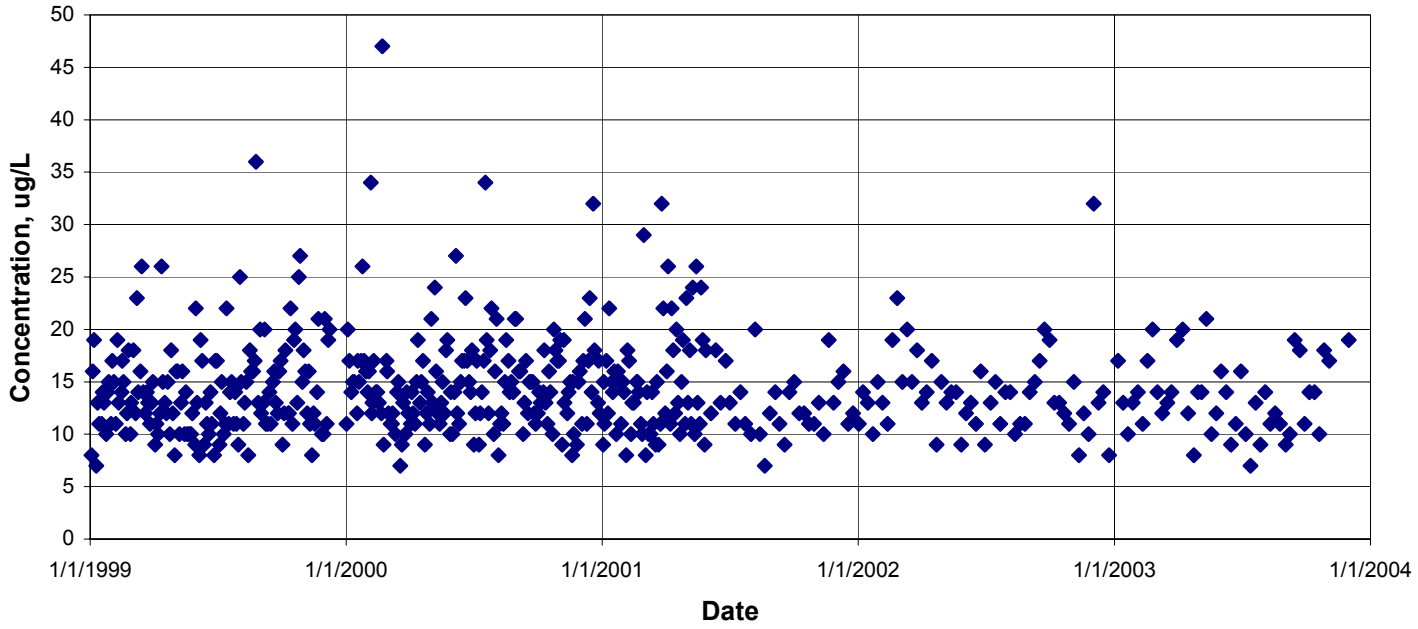


Figure 4 - Effluent, Nickel

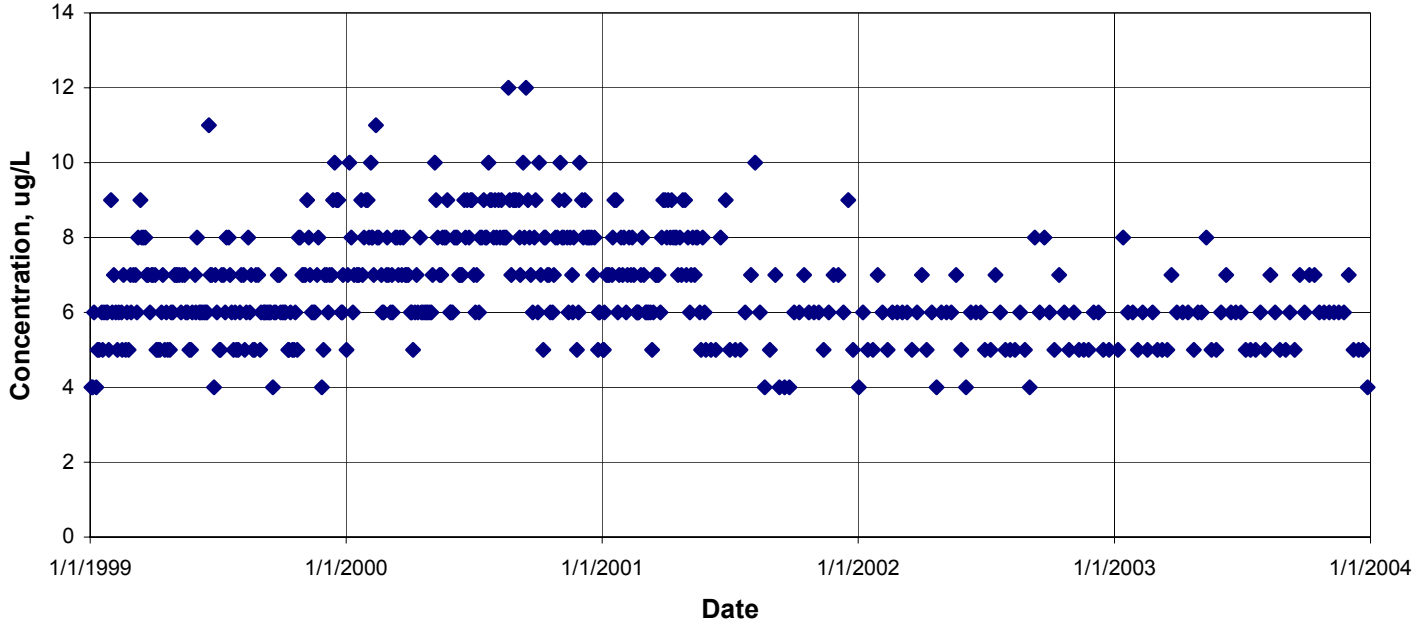


Figure 5 Ambient Monitoring Stations

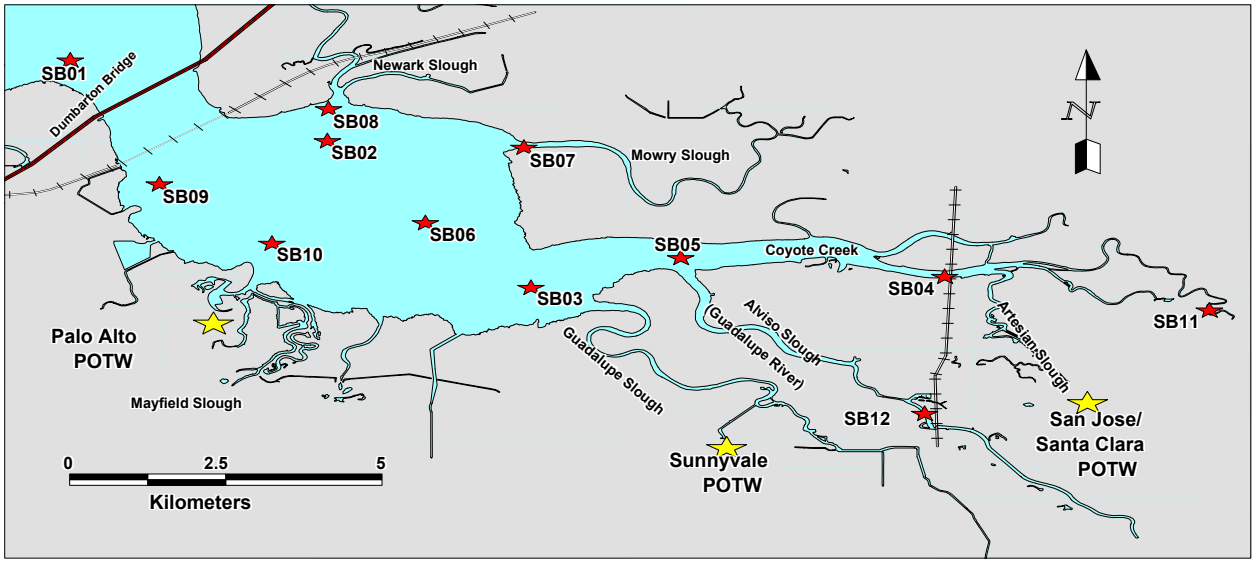
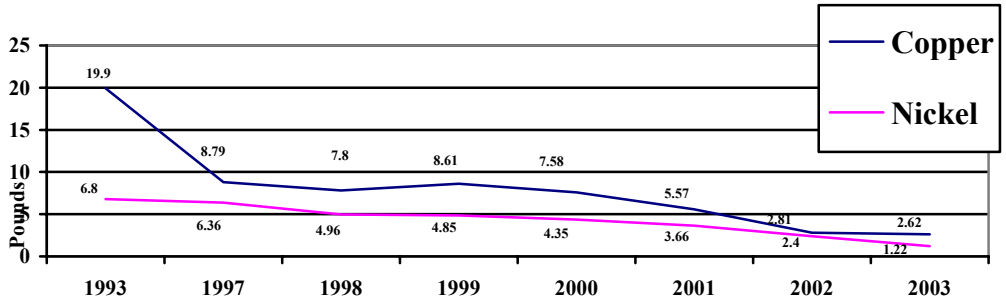


Figure 6 Total Permitted Industrial Copper and Nickel Loading to the Plant



MERCURY SOURCES: Hospitals and Dental offices are minor sources. Guadalupe watershed is the largest source of mercury to the South Bay due to runoff from abandoned mercury mines. EFFECTIVENESS MEASURES: Influent and Effluent from the Plant is monitored for upward trends			
Activity	**Completed Tasks for Reporting Period (7/1/03-12/31/03)**	**Effectiveness Evaluation**	**Future Tasks**
Fate and Transport Study	Prepared workplan with steps and schedule to develop a minimum 2-year study of total and methyl mercury through the Plant (See Appendix A). Submitted workplan to the Regional Board on January 15, 2004.	Submit workplan on schedule.	Begin first year of mercury study through the Plant, upon approval of the workplan by the Regional Board.
TMDL Participation	Clean Estuary Partnership (CEP) developed a set of reports about mercury sources and potential implementation strategies for source categories. CEP initiated a multi-year assessment of the mercury loading for the Guadalupe River. City staff is actively participating in the Guadalupe TMDL effort.		Continue funding CEP. Continue participation on the Guadalupe TMDL workgroup of the WMI.
RMP	Contributed financially to the RMP and provided staff support to operate a mercury sampling station as part of the Mercury Atmospheric Deposition Network.		Continue funding RMP.
Pollution Prevention Policy	City is implementing the Pollution Prevention policy approved June 24, 2003. This policy places pollution	Periodic trainings for staff affected by the policy are presented as part of an	Continue implementation of P2 policy.

MERCURY

SOURCES: Hospitals and Dental offices are minor sources. Guadalupe watershed is the largest source of mercury to the South Bay due to runoff from abandoned mercury mines.

EFFECTIVENESS MEASURES: Influent and Effluent from the Plant is monitored for upward trends

Activity	Completed Tasks for Reporting Period (7/1/03-12/31/03)	Effectiveness Evaluation	Future Tasks
	prevention as a consideration for all potential sources of mercury, from purchasing to waste disposal. This effort is directed through the stormwater permit and is reported in more detail in that annual report.	Urban Runoff permit requirement.	
Influent and Effluent Monitoring	Monitored Plant influent and effluent for mercury. See Figures 6 & 7	Maximum daily effluent level measured in past 3 years (0.008 ppb) is below monthly average permit limit (0.012 ppb).	Continue to measure Plant influent and effluent.
Regional Outreach	Participated in BAPPG and BACWA efforts to reduce discharge of mercury from residential and medical sources. Spanish radio, television commercials, and internet pages were used to publicize proper disposal of old thermometers and other products containing mercury.	An evaluation of the internet as an outreach method for Spanish speaking audiences is planned by BAPPG.	Continue funding and active participation in BAPPG and BACWA to use a regional approach to mercury pollution prevention. Participate with Santa Clara County on a grant received to target mercury reduction in 2004.

Figure 6 - Influent, Mercury

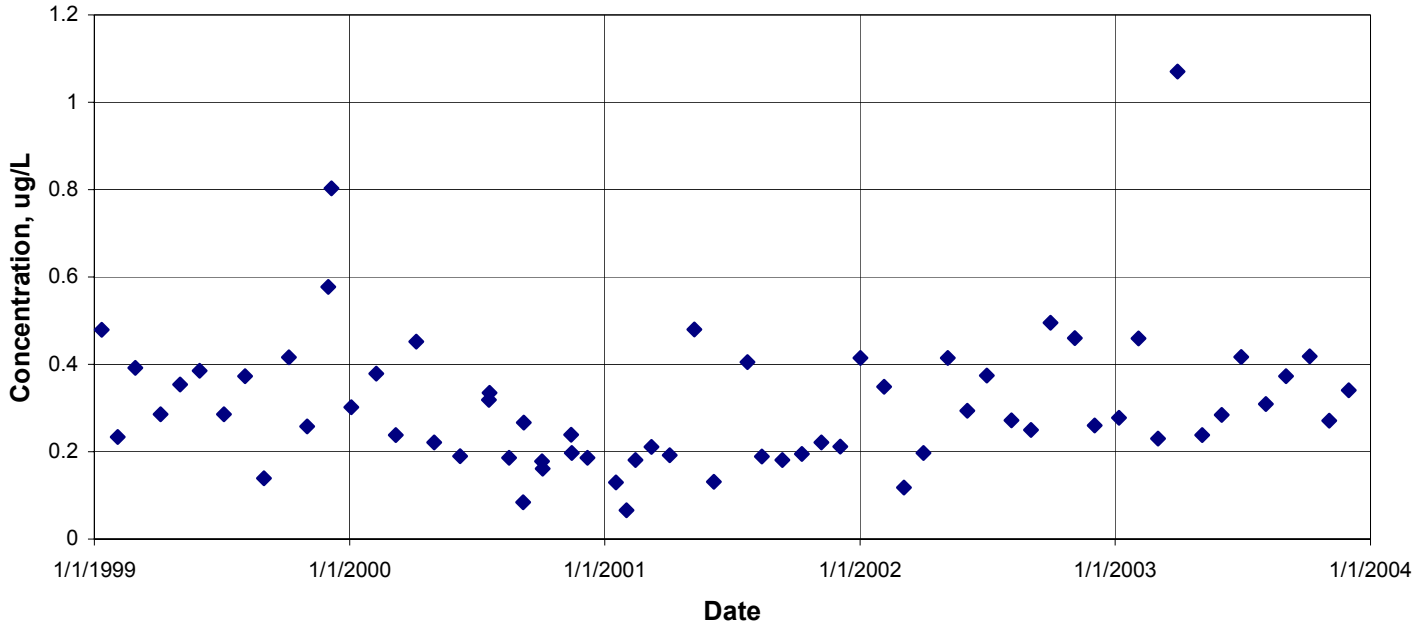
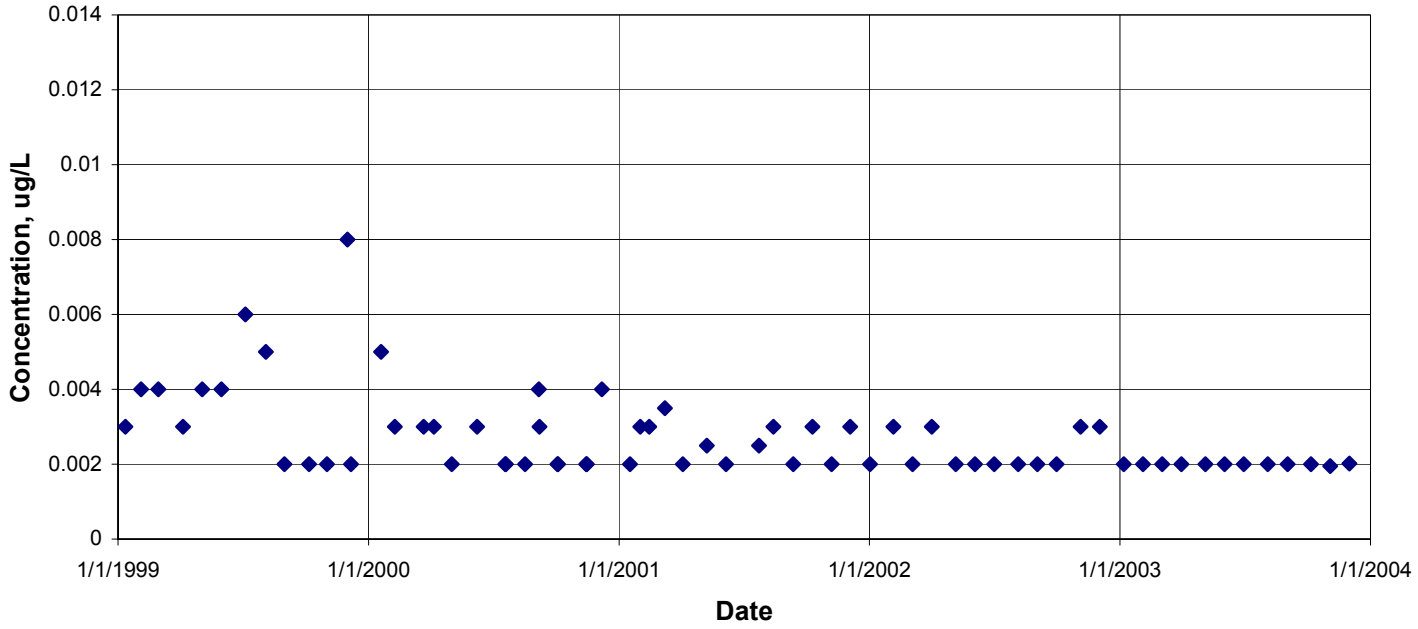


Figure 7 - Effluent, Mercury



ORGANICS

SOURCES: Pesticides enter the sanitary sewer system through cleaning of spray equipment and inappropriate disposal of excess product. Pesticides enter the storm sewer system through runoff from inappropriate and excessive application. Some of the organics listed as pollutants of concern are legacy pollutants that may not have current sources

EFFECTIVENESS MEASURES: Concentrations in the Plant influent, Plant effluent, and South Bay background are monitored.

Activity	Completed Tasks for Reporting Period (7/1/03-12/31/03)	Effectiveness Evaluation	Future Tasks
Aldrin Laboratory Reliability Study	Study was completed and submitted by the January 15, 2004 deadline. See Appendix B.		Influent and effluent samples will be sent to 2 contract laboratories and the results compared. Professional judgment will be used to evaluate the reliability of reported data. Monitoring frequency will increase from every six months to monthly if any suspect data is encountered.
Influent and Effluent Monitoring	All sample results for pollutants of concern were below detection limit.		Sampling will continue.
Pollution Prevention Policy	City is implementing the Pollution Prevention policy approved June 24, 2003. This integrated pest management (IPM) policy places pollution prevention as a consideration for potential sources of pesticides, from purchasing to waste disposal. This effort is directed through the stormwater permit and is reported in more detail in that annual report.	Annual workshops given to staff affected by the policy as part of the urban runoff permit requirements.	Continue implementation of P2 policy.
Regional Outreach	Participated in BAPPG efforts to reduce discharge of pesticides from residential	A significant rise in diazinon drop off through	San José plans to conduct a survey of pesticide selling stores to

ORGANICS SOURCES: Pesticides enter the sanitary sewer system through cleaning of spray equipment and inappropriate disposal of excess product. Pesticides enter the storm sewer system through runoff from inappropriate and excessive application. Some of the organics listed as pollutants of concern are legacy pollutants that may not have current sources EFFECTIVENESS MEASURES: Concentrations in the Plant influent, Plant effluent, and South Bay background are monitored.			
Activity	**Completed Tasks for Reporting Period (7/1/03-12/31/03)**	**Effectiveness Evaluation**	**Future Tasks**
	sources through the use of less toxic pest controls and proper disposal of pesticides. A grant to Santa Clara County was used to target neighborhoods with low participation in the Household Hazardous Waste program with door hangers and other outreach materials about pesticides, and providing information on the diazinon ban. A new version of the "Control It" pesticide alternative BMP is ready to print.	the Household Hazardous Waste program was observed.	determine the type and quantity of pesticides stocked. Reprint of "Control It" will be done.
Household Hazardous Waste	The City participates in the Santa Clara County Household Hazardous Waste program informing residents of opportunities within the Plant service area to drop off household hazardous waste. 8700 households in San José disposed of hazardous waste through this program in 2003 at a permanent facility in San José.		Continue to fund the operation of a permanent drop off station in San José.

CYANIDE SOURCES: Industrial plating operations, medical facilities, Plant processes EFFECTIVENESS MEASURES: Concentrations in the Plant influent, Plant effluent, and South Bay background are monitored.			
Activity	**Completed Tasks for Reporting Period (7/1/03-12/31/03)**	**Effectiveness Evaluation**	**Future Tasks**
Fate & Transport of cyanide at the Plant	Workplan completed November 17, 2003. Cyanide workplan is in coordination with BACWA and other shallow water dischargers to address a future permit issue, and provide data for inclusion in a cyanide site-specific objective basin plan amendment including a possible attenuation factor for the South Bay.	Provide information to the Regional Board to obtain a site-specific objective that applies to shallow water dischargers.	1. Samples will initially be collected monthly at 4 Plant locations and at 15 stations in the receiving waters and analyzed using low-level detection methods. 2. Continue active participation in the BACWA shallow water's cyanide subgroup to equitably resolve regulatory issues.

APPENDIX A

DRAFT MERCURY FATE & TRANSPORT STUDY

APPENDIX B

ALDRIN LABORATORY RELIABILITY STUDY

The studies will be available on the following website: http://www.ci.san-jose.ca.us/esd/